

Special issue: motorcycle deaths

# STATUS REPORT

INSURANCE INSTITUTE  
FOR HIGHWAY SAFETY

Vol. 37, No. 1, January 12, 2002



## More and more **OLDER RIDERS** Deaths are on the increase

After years of going down, motorcycle deaths are on the rise. Between 1990 and 1997, fatalities dropped 34 percent, but since then they've gone back up 36 percent. There's more than a reversal

of a trend going on. There's also a demographic shift — deaths are rising fastest among cyclists 40 and older, which is pushing up the average age of cyclists killed.

Motorcycles are a dim spot in the overall highway safety picture. Deaths on motorcycles have gone up while pedestrian deaths, for example, have declined and passenger vehicle deaths have remained unchanged.

"Increasingly, the motorcycle riders who are getting killed are in their 40s, 50s, and 60s, and fewer are in their teens and 20s," says Susan Ferguson, the Institute's senior vice president for research. "This is a big change from 10 or 20 years ago, when motorcycle deaths were at their highest and a very high proportion of the fatalities were young people."

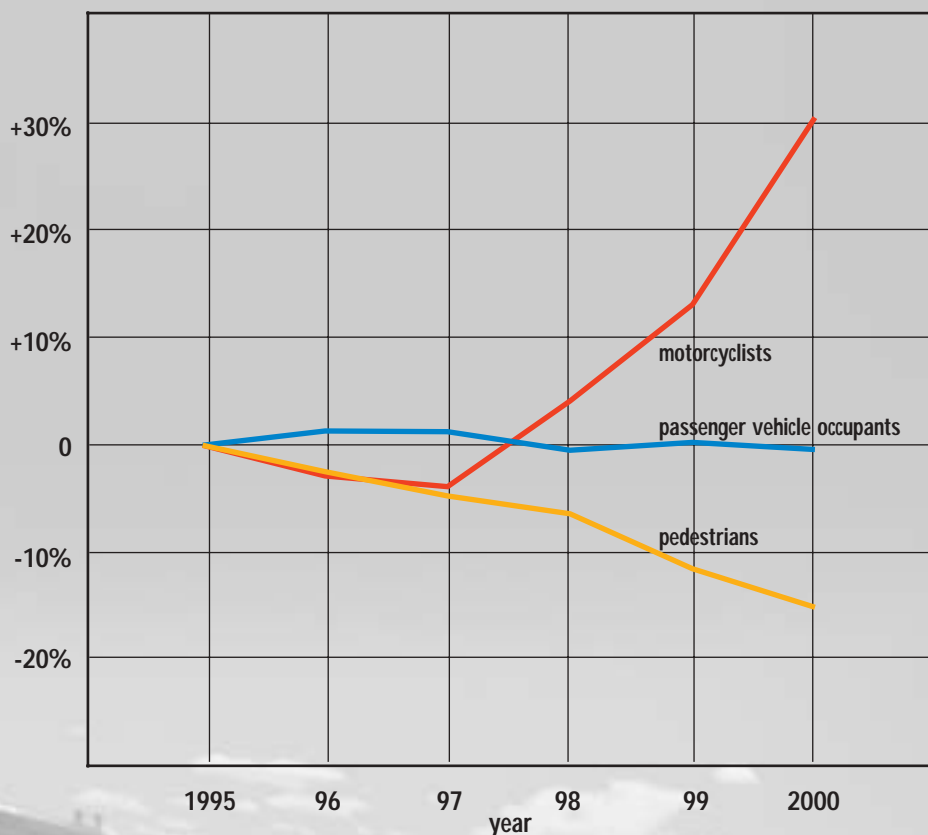
Deaths among motorcyclists 40 and older have been steadily increasing for about a decade. They've increased more than 150 percent since 1990. But until recently this increase was offset by declining deaths among younger riders. Among those younger than 40, the number of deaths went down nearly 50 percent during 1990-97. Then deaths among people younger than 40 started to climb again, but not to the same extent as deaths among motorcyclists 40 and older.

"Over the last three years, the number of motorcycle deaths has gone up 68 percent in the 40-and-older group but only 20 percent among people younger than 40," Ferguson notes. As a result, the proportion of all fatally injured riders 40 and older stands at 40 percent, up from 14 percent in 1990. The median age of bikers killed is now about 36 years old, up from 27 in 1990.

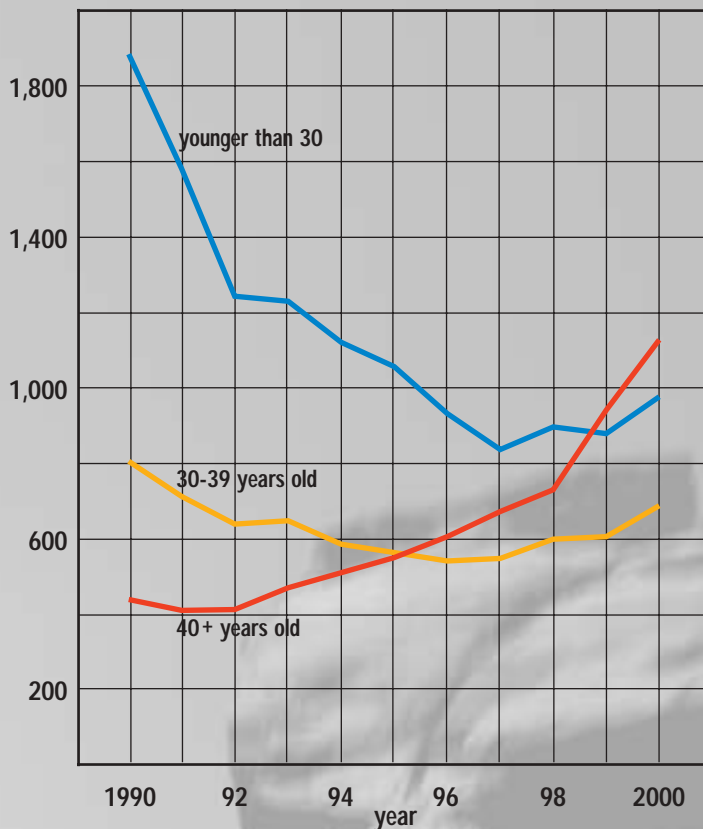
This shift doesn't reflect the aging of the population. It reflects the changing demographics of motorcycle buyers and riders (see facing page).

According to the Motorcycle Industry Council, national retail sales of new motorcycles shot up 50 percent from 1997 to 1999 (the last year for which data are available), from 356,000 units per year to 539,000. Sales have been particularly strong for American manufacturer Harley-Davidson, whose buyers typically are much (continues on p.6)

Percent change in annual deaths of motorcyclists, pedestrians, and passenger vehicle occupants compared with deaths in 1995



Annual number of motorcycle deaths, by age of motorcyclist, 1990-2000



The proportion of all fatally injured riders 40 and older stands at 40 percent, up from 14 percent in 1990. The median age of bikers killed is now about 36 years old, up from 27 in 1990. This shift doesn't reflect the aging of the population. It reflects the changing demographics of motorcycle buyers and riders.

## Ridership changing: **PROFILE** of cyclists isn't what you might think

Part of the reason motorcycle deaths have been going up disproportionately among older riders is the changing demographics of bike buyers and riders. Surveys show motorcycle owners increasingly aren't young. They're older, affluent professionals. According to the Motorcycle Industry Council, the typical U.S. bike owner is now about 38 years old, earns \$44,250, is married, and has a professional, managerial, or technical job.

This compares with the typical owner in 1980, who was a 24 year-old earning \$17,500. So more and more riders don't hold up to the traditional stereotype of the biker as a young rabble-rouser.

"They're not the guys you picture with the three-foot ZZ Top beards who haven't showered in three weeks," says Trey Bostick of Patriot Harley-Davidson in Fairfax, Virginia.

People often assume older motorcyclists are safer than younger riders, but the growing number of cyclists 40 and older who get killed in crashes shows that mature riders aren't immune from the obvious hazards of cycling. "No matter how



old they are, motorcyclists are at higher risk of injury compared with almost anyone else who's using the road," says Allan Williams, the Institute's chief scientist.



By 1975, a total of 47 states (all except California, Illinois, and Utah) had adopted

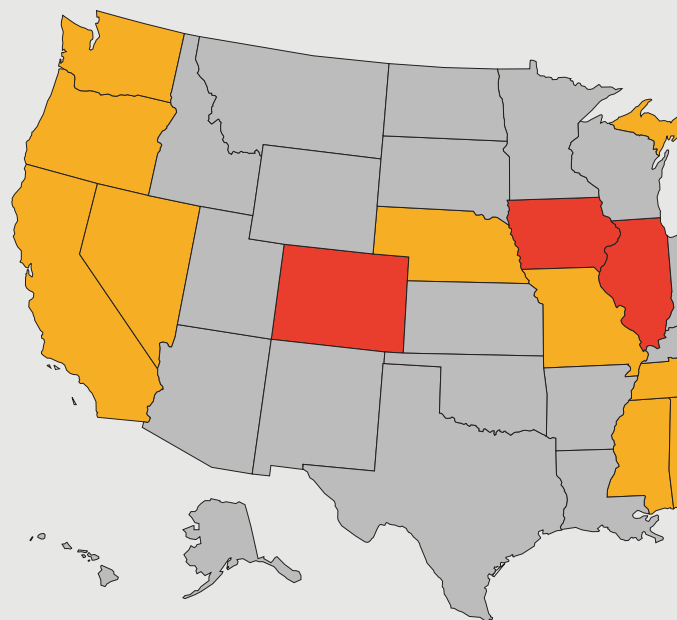
Legislators have been reluctant to take helmet laws completely off the books. More

Another approach taken by some states is to create exceptions for adult riders who have a specified amount of medical insur-

# U.S. LAGS BEHIND

Helmet laws covering all riders are the norm worldwide, except in the United States

Most European countries enacted helmet laws in the 1970s. Other countries around the world have done so, too. Laws in the following countries generally cover all riders, although in some countries there are exceptions for moped riders: Andorra, Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada (all provinces), Czech Republic, Denmark, Finland, France, Germany, Hungary, India, Indonesia, Ireland, Italy, Japan, Latvia, Liechtenstein, Luxembourg, Malaysia, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, San Marino, Singapore, Slovakia, South Africa, Spain, Sweden, Switzerland, Thailand, United Kingdom, Venezuela, and Yugoslavia. The United States lags far behind. Only 20 states and the District of Columbia have mandatory helmet laws that cover all motorcyclists. Colorado, Illinois, and Iowa have no helmet laws at all, and the other 27 states have limited laws that apply to some riders, usually those younger than 18.



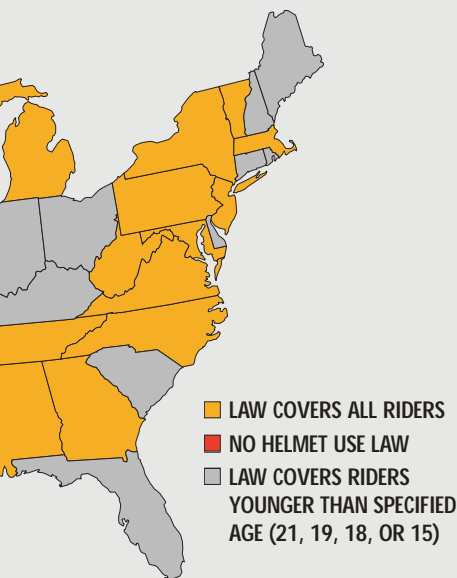
Note about laws with limited coverage: Some states with limited laws require helmet wearing by riders of any age (Minnesota, Ohio, Rhode Island, and Wisconsin). In three states (Florida, Kentucky, and Louisiana), the laws apply to a minimum level of medical insurance. In one state (Texas), the law applies to all riders with exceptions for those with insurance or proof of having taken a motorcycle safety training course. Penalties for helmet law violations range from a fine to a suspension of license in Hawaii, Nevada, and New Hampshire. Some of these states also provide for an optional jail sentence. In most states, the laws are not enforced.

ance (typically \$10,000) or motorcycle safety training. But these exceptions complicate enforcement because there's no way for an officer to know when a rider is exempt.

Even though limited laws don't work, state motorcycle rights organizations are pressuring state legislators to invoke the limitations. No fewer than 26 helmet law bills were introduced in 20 states last year, and most aimed to repeal or otherwise weaken existing helmet laws.

None of the challenges succeeded, but a few came close, getting as far as committee approval in Maryland, Michigan, Missouri, Nebraska, North Carolina, Oregon, Virginia, and West Virginia. In Georgia, a bill to remove the points penalty assessed against a helmet law violator's license passed the legislature but was vetoed by the governor.

A handful of attempts in 2001 to adopt or strengthen helmet laws also failed. Two Illinois bills would have reinstated a helmet law. Louisiana considered extending its law from limited (it covers only riders younger than 18) to universal coverage.



age who have instructional or learners' permits (Alaska, Kentucky, Maine, ...  
 y to all riders with exceptions for older cyclists who can present proof of  
 e 21 and older who can present proof of a minimum level of medical  
 e from as little as \$10 in Kansas to a maximum of \$1,000 in Georgia,  
 ates, a helmet law violation carries no driver's license penalty points.

## Motorcycle deaths go up when states abandon or roll back their mandatory helmet use laws

To some, the argument to "let those who ride decide" sounds reasonable. After all, many bikers say they'd wear a helmet even if there were no law on the books. They just don't like Big Brother telling them they have to.

Observations of helmet use tell a different story. Without a law or with one that applies only to some riders, about 50 percent of motorcyclists wear helmets. With a law covering all riders, use approaches 100 percent.

Helmet use directly affects the number of motorcyclist deaths and injuries as well as the public health care costs associated with treating injured riders. Unhelmeted riders are three times as likely as helmeted ones to suffer brain injuries, which often result in expensive lifelong disabilities (see p.6) or death.

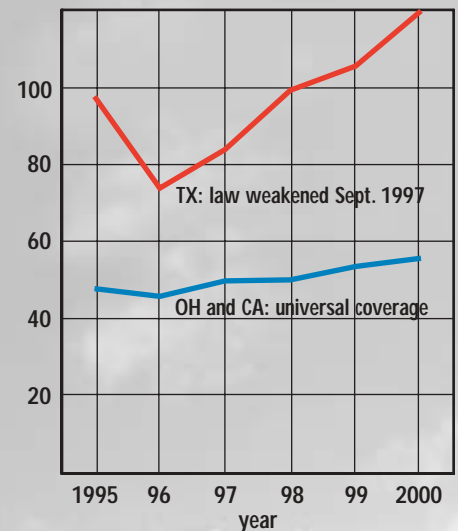
States that have repealed or weakened their helmet laws have watched use rates go down and motorcycle deaths go up. For example, in 1997 Arkansas dropped the helmet requirement for riders 21 and older. In the same year, Texas dropped the requirement for people 21 and older who are insured or have training. A recent study from the National Highway Traffic Safety Administration (NHTSA) looked at what happened, finding 97 percent helmet use before the laws were changed. In the year after the law changes, Arkansas' helmet wearing rate fell to 52 percent, and motorcycle deaths rose 21 percent. Helmet wearing in Texas went down to 66 percent in the year after the law was weakened, and deaths went up by about

one-third. Head injuries increased in both states, and in Texas the cost of treating head injuries increased significantly (see [www.nhtsa.dot.gov/people/injury/research/motor\\_safety.html](http://www.nhtsa.dot.gov/people/injury/research/motor_safety.html)).

The rate of fatalities also went up in Texas, Institute analyses have found. In 1996 (before the helmet law was changed to exempt some adult riders), the death rate per 100,000 motorcycle registrations was 74. Then it increased steadily, rising to 120 in 2000. In comparison, the rate increased much less — from 46 to 56 per 100,000 — in California and Ohio, where helmet laws covering all motorcyclists were retained.

Increasing helmet use is a stated goal of the National Agenda for Motorcycle Safety, a joint effort of NHTSA and the Motorcycle Safety Foundation. As a federal agency, NHTSA cannot make specific legislative recommendations regarding state helmet laws but "it should be a no-brainer for states to do the right thing," Institute chief scientist Allan Williams says. "This isn't rocket science. When you repeal helmet laws, people stop wearing helmets, and some of them wind up dying in crashes they would have survived."

Motorcycle death rates per 100,000 cycles registered: Texas, where the helmet law was weakened, compared with Ohio and California where laws cover all riders





## Brain injury can mean lifetime of suffering and lost opportunities

For every one of the approximately 2,800 motorcyclists who died in crashes in 2000, at least another 20 bikers sustained nonfatal injuries. For some it was just a broken arm or leg. The less fortunate survivors ended up with damage to the brain, the most vital organ in the body.

Motorcyclists who sustain catastrophic brain injuries may never recover. If they do, it's a slow and unpredictable recovery, with outcomes ranging from temporary loss of consciousness to any number of disabilities that can leave a person dependent on others for a lifetime. Even in the best case, an injured person's behavior and personality may change so much that he or she seems like a completely different person.

Behind every brain injury statistic, there's a personal story of unimaginable loss, frustration, and sadness. The tragedy is compounded when the survivors and their loved ones know it might have been prevented by something as simple as strapping on a helmet.

At 26, Jeff Popovich of McHenry, Illinois, had his life cut out for him. He had a successful career as a professional in graphic arts, his own condominium, and a steady girlfriend. But one night in October 1986, he made a decision that effectively ended it all. He left his helmet hanging in the garage and went out for a motorcycle ride. Later when he was found on the road, he was alive but unconscious.

Jeff's father, Bob, explains that the bike probably flipped over when Jeff tried to avoid a deer. The bike most likely landed on Jeff's head, causing a massive brain injury. He then spent two and a half years in hospitals and treatment facilities until the bills hit



(continued from p.2) older than the average motorcycle buyer. Harley became the U.S. sales leader in 1999, eclipsing Honda with a 26 percent share of the market.

The proportion of larger-engine motorcycles also has been growing steadily for a decade. This is reflected in the fatality statistics, which indicate that deaths are increasing among riders of cycles in the 1,000-1,500 cc engine size category. The under-1,000 cc category of bikes still accounts for the greatest number of deaths,

but fatalities on larger motorcycles are starting to catch up.

For riders of all ages, the relative risks associated with motorcycles are extremely high. The death rate on motorcycles per registered vehicle is about 4 times the rate in passenger vehicles and 18 times higher per mile traveled.

It hasn't helped that a number of states have weakened their laws requiring all riders to wear helmets (see p.4). Weaker laws are associated with an increase in deaths.



his \$1 million insurance cap. Not wanting Jeff to become a ward of the state, his parents took him home to live with them. For the next nine years, it was all they could do to take care of him.

"He had serious cognitive difficulties and his speech was affected, so all he could say were obscenities, which is typical of brain injuries," Bob says. "His memory was severely impaired, he had behavioral outbursts, and he would be abusive toward himself and verbally abusive toward others."

After reaching the point of exhaustion, Jeff's parents reluctantly placed him in a

long-term care facility in Nebraska, the nearest place they could find. That was five and a half years ago.

"Jeff has been there ever since, and he will be in such a place for the rest of his life," his father says. "He will never do the things one normally could. He's still incontinent at night. His daily activities include someone helping him take a shower and shave, someone laying out his clothes, and someone preparing breakfast for him. The rest of the day is spent pretty much wandering around the facility doing whatever he chooses to do, which is not very much."

Bob says the best way to describe his son's mental state is that of a frustrated, retarded five-year-old child. "Unfortunately, he can remember his past. He can pick himself out of family pictures as a child. And I say unfortunately because it would be better for him if he didn't remember who he was and what he could do. There was a time when he could drive a car, he could own a home, he could make love. He will never do those things again, and he knows it."

Bob believes his son is in the best possible place, given the circumstances, but his hopes for Jeff's future are painfully bleak. "I



**Jeff's father, Bob, says the best way to describe his son's mental state is that of a frustrated, retarded five-year-old child. Bob says that "unfortunately he can remember his past. He can pick himself out of family pictures as a child. And I say unfortunately because it would be better for him if he didn't remember who he was and what he could do. There was a time when he could drive a car, he could own a home, he could make love. He will never do those things again, and he knows it."**

pray every night that God would take him, simply because I know how frustrated he is with his present life."

There are some things a parent never does get over. "We still cry every night," Bob says.

As advocacy chairman of the Illinois Brain Injury Association, Bob Popovich tried in the early 1990s to get a helmet law passed. His efforts couldn't match those of the anti-helmet lobby. Illinois remains one of just three states with no helmet law (see p.4).

# STATUS REPORT

INSURANCE INSTITUTE  
FOR HIGHWAY SAFETY

NON-PROFIT ORG.  
U.S. POSTAGE  
PAID  
PERMIT NO. 252  
ARLINGTON, VA

## Special issue

1005 N. Glebe Rd., Arlington, VA 22201

703/247-1500 Fax 247-1588

Internet: [www.highwaysafety.org](http://www.highwaysafety.org)

Vol. 37, No. 1, January 12, 2002

This special issue focuses on motorcycle deaths and injuries. Recent special issues have focused on the following subjects:

Elderly drivers	36:8 (2001)
What works & doesn't work	36:5 (2001)
Vehicle improvements	36:3 (2001)
Side impact protection	36:1 (2001)
State traffic safety laws	35:10 (2000)
Driver death rates	35:7 (2000)
Federal airbag rule	35:6 (2000)
Cosmetic repair parts	35:2 (2000)
Graduated licensing	34:10 (1999)
Vehicle compatibility in crashes	34:9 (1999)
Child safety	34:8 (1999)
Neck injuries	34:5 (1999)



Every year the small town of Sturgis, South Dakota (population about 7,000), hosts the annual motorcycle Rally & Races. Begun in 1938 by J.C. "Pappy" Hoels, who owned the local motorcycle shop, the first rally was attended by 19 bikers. Now attendance numbers as many as 400,000. "There's a wannabe biker in most of us," says the Insider's Guide. "Even South Dakota's governor rides."

Contents may be republished with attribution.  
This publication is printed on recycled paper.

ISSN 0018-988X

The Insurance Institute for Highway Safety is an independent, nonprofit, scientific and educational organization dedicated to reducing the losses — deaths, injuries, and property damage — from crashes on the nation's highways. The Institute is wholly supported by automobile insurers:

Alfa Insurance  
Allstate Insurance Group  
American Express Property and Casualty  
American Family Insurance  
American National Property and Casualty  
Amica Mutual Insurance Company  
Amwest Insurance Group  
Auto Club South Insurance Company  
Automobile Club of Michigan Group  
Baldwin & Lyons Group  
Bituminous Insurance Companies  
California Insurance Group  
California State Automobile Association  
Chubb Group of Insurance Companies  
Church Mutual  
Colonial Penn  
Concord Group Insurance Companies  
Cotton States  
Country Insurance & Financial Services  
Erie Insurance Group

Farmers Insurance Group of Companies  
Farmers Mutual of Nebraska  
Fidelity & Deposit  
Foundation Reserve Insurance Company  
Frankenmuth  
The GEICO Group  
General Casualty Insurance Companies  
General Electric Financial Assurance  
GMAC Insurance Group  
Grange Insurance  
Harleysville Insurance Companies  
The Hartford  
Idaho Farm Bureau  
Instant Auto Insurance  
Kansas Farm Bureau  
Kemper Insurance Companies  
Liberty Mutual Insurance Group  
Merastar  
Mercury General Group  
MetLife Auto & Home  
Middlesex Mutual  
Montgomery Insurance Companies  
Motor Club of America Insurance Company  
Motorists Insurance Companies  
MSI Insurance Companies  
National Automobile & Casualty  
National Grange Mutual  
Nationwide Insurance

North Carolina Farm Bureau  
Oklahoma Farm Bureau  
Old Guard Insurance  
OneBeacon Insurance  
Oregon Mutual Group  
OrionAuto  
Palisades Safety and Insurance Association  
Pekin Insurance  
PEMCO Insurance Companies  
The Progressive Corporation  
Prudential Financial  
Response Insurance  
Rockingham Group  
Royal & SunAlliance  
SAFECO Corporation  
SECURA  
Shelter Insurance Companies  
State Auto Insurance Companies  
State Farm Insurance Companies  
The St. Paul Companies  
Tokio Marine  
USAA  
Virginia Farm Bureau  
Virginia Mutual Insurance Company  
Yasuda Fire & Marine of America  
Zurich North America